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on October 30, 2003

Name of Rep. Henry I Schanzer

Signature Henry I Schanzer

date 10/30/03

s/n 09/763,247

OPT 33-27

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Carroll et al.

Serial Number : 09/763,247

For : WAVE ENERGY CONVERTERS UTILIZING  
PRESSURE DIFFERENCES

Filed : 10/15/01

Examiner : GONZALEZ, J.C.

Art Unit : 2834

REQUEST FOR RECONSIDERATION AFTER FINAL REJECTION

Hon. Commissioner of Patents and Trademarks  
Alexandria, VA 22313-1450

Sir:

This letter is in response to the final rejection mailed  
8/14/03.

1. Double Patenting - Mailed under separate cover is a terminal  
disclaimer signed by the undersigned, a registered attorney of

record. The disclaimer, however, applies only to Claims 1-3 of the application and not to Claim 18. Concerning Claim 18, it is submitted that it is patentably distinct from the claims of US Patent 6,291,904.

Perhaps the simplest argument in support of Applicants' position is that the Examiner excluded from the double patenting rejection pending claim 4 (among other claims). Claim 4 specifies that the cylinder has a closed top end and that the cylinder is slidably connected (i.e., is movable). Pending Claim 18, in comparison with Claim 4, likewise specifies that the elongated member has a closed end "up" (i.e., a closed upper end) and that the member is movable. Accordingly, Claim 18, no less than Claim 4, patentably distinguishes from the claims of the patent (which specify a stationary tube) and is not properly rejected under the double patenting doctrine.

4. Rejection Under 35 USC 103(a) - The Examiner comments (top of page 4) that neither Fredriksson et al nor Everett discloses an elongated member with an open end. Two problems are present. One, Claim 18 does not specify an open end for the claimed elongated member; and two, Fredriksson et al does indeed show an elongated, submerged cylinder 14 having an open top end. Clarification is requested.

Aside from the foregoing, what is clear is that Claim 18 specifies a member having a closed end submerged "within" the

water. In support of the rejection of Claim 18, it is thus necessary for the Examiner to establish that it would have been obvious for persons of skill, not aware of Applicants' disclosure, to modify Fredriksson in two major ways:

1. Make the open ended cylinder 14 closed at the top end; and
2. Submerge the float 10 such that (Claim 18) "the sole mechanism for transferring energy..... comprises water pressure differences between opposite ends of the member".

The issue of making major modifications of Fredriksson is fully discussed in Applicants' amendment mailed May 10, 2003, and the Examiner is requested to refer thereto. Briefly, at page 9 of the amendment, it is explained that it is inappropriate for the Examiner to propose modifications which change the principle of operation of a reference (MPEP Section 2143.01, p. 2100-125).

In Fredriksson, as well as in Everett, floats are used which bob up and down with the waves for capturing energy from the waves. The energy capturing mechanism involves varying the water displaced by the float, as the waves pass thereby, thus varying the buoyancy of the float. While Everett refers to differences in water pressure, this relates solely to the pressure differences beneath the wave crests and wave troughs and has nothing to do with the length of the float of Everett. That is, the mechanism Everett is referring to is the basic mechanism which causes surface waves to advance along the water surface; the weight of the water crest causing pressures for displacing adjacent water for advancing the

crest. By impinging the advancing waves against the hollow space of Everett, the wave action causes varying water heights in the space. Within the space is a float which, identically as the float in Fredriksson, bobs up and down with the changing water height. Combining Fredriksson with Everett is perfectly feasible because the identical mechanisms are involved in both; namely a float moving in response to changing water levels tending to change the submerged volume of the float; hence, the buoyancy of the float.

However, neither patent is patentably relevant to Claim 18 which relies on a fully submerged member whose buoyancy does not change with the passing waves and which relies upon pressure differentials between opposite ends of the submerged member for causing movements of the member. (The buoyancy of the object is a function of the water displaced by the object. If an object of fixed volume is fully submerged, the volume of displaced water is fixed; hence, the buoyancy of the object is not altered by overpassing surface waves.)

The reliance on Gardner by the Examiner is not understood. Both Fredriksson and Everett use members which float on the surface of the water. The members bob up and down with passing waves in response to changes in the volume of the members submerged in the water. For such wave induced bobbing motions to occur, the members must float on the water surface. In Gardner, two containers are used, both of which are fully submerged. The containers move up and down in response to the exchange of a gas between the

containers and the filling and emptying of the containers with the surrounding water. How, indeed, would Fredriksson be changed according to Gardner? With respect, the initial burden is on the Examiner to show what the actual changes would be based upon the proposed combination of references. To the undersigned, the differences between Fredriksson and Gardner are so great that it is not possible to imagine how they can be combined. Also, submerging the float of Fredriksson according to Gardner requires a change (quite major) in the principle of operation of Fredriksson; from a float utilizing buoyancy variations to a submerged member of fixed buoyancy and utilizing pressure variations. Per the above-cited section of the MPEP, such modification of Fredriksson, as proposed by the Examiner, is "inappropriate".

In summary, Fredriksson and Everett make use of the same mechanism; namely, changes in water displacement of a water surface float in response to bypassing waves. This is not the mechanism specified in Claim 18 which involves a fully submerged member. Modification of Fredriksson according to Everett does not lead to the use of a submerged member nor to the use of varying water pressure differences between the ends of the member. Gardner makes use of water differentials but not in any way related to Fredriksson or Everett. Combining Gardner with the other references is in no way shown or suggested by the references themselves nor has the Examiner explained how the various technologies could be combined.

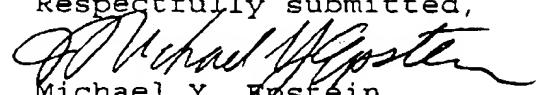
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TECHNICAL DRAWINGS

Reconsideration of the rejection and allowance of the application are respectfully requested.

Respectfully submitted,

  
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